

Application No. 10/557,758  
Amendment  
November 7, 2007

**Remarks:**

Reconsideration of this application in view of the above-identified amendments and following remarks is respectfully requested. Claims 15-19, 23-25, and 28 are currently pending. Claims 1-14, 20-22, 26, 27 and 29 have been cancelled. Claims 15-19, 23-25 and 28 stand rejected for the reasons of record. Claims 15 and 28 have been currently amended to further patentably distinguish the present invention over the prior art. No new matter has been added. For purposes of clarity, Applicant addresses each of the Examiner's concerns in the order set forth in the previous Office Action.

Claims 15-19, 24, 25, and 28 stand rejected under 35 U.S.C. § 103(a) as being obvious in view of Kumar et al. (U.S. Patent No. 5,684,055) in combination with Grancio et al. (U.S. Patent No. 4,386,188) and Rubens et al. (U.S. Patent No. 5,684,055) for the reasons of record. Claim 23 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of Kumar et al. in combination with Grancio et al. and Rubens et al., as well as Kumar (U.S. Patent No. 5,223,545) for the reasons of record. Applicant respectfully disagrees with the Examiner's conclusions relating to obviousness; however, and for purposes of expediting allowance of the present application, Applicant has further narrowed the scope of the presently claimed invention such that the claimed method now recites (1) a step of "at least partially foaming," and (2) a step of "thermoforming" (as opposed to a broader step of "forming"). Support for these claim amendments may be found throughout the Specification and in particular at page 1, lines 14-19; page 17, lines 8-9; and page 19, lines 3-12 (as well as now cancelled claim 20, which claim has now been incorporated into independent claim 15 in part). Applicant respectfully submits that these narrowing amendments further patentably distinguishes the present invention over the prior art.

In this regard and for example, both Kumar et al. and Kumar are entirely silent with respect to a step of "thermoforming." Indeed, neither of these references discloses anything about thermoforming a plasticized thermoplastic material into a shaped article of manufacture. Rather, and at least with respect to Kumar et al., the prior art seemingly teaches away from the presently claimed invention by disclosing:

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In another aspect, the present invention comprises an array of shaped polymeric articles spaced apart by gas channeling or interleaving means, said array being assembled so that it can be readily moved into and out of a pressure chamber. The array can preferably be a roll of polymeric sheet material wherein a porous paper sheet is interleaved between surfaces of the polymeric sheet so that the surfaces of the rolled sheet material will be exposed to gas within a pressure chamber. The array can also comprise a stack of polymeric sheets with porous paper, particulate material, or netting or non-woven material separating the polymeric sheets. Folded, festooned, or wicket supported arrays can also be used.

Kumar et al. at col. 4, lines 1-13 (emphasis added).

As is appreciated by those skilled in the art, this passage teaches away from the presently claimed invention because it suggests that “an array of shaped polymeric articles” may be made by first “shaping” followed by a step of “foaming.” With respect to the presently claimed invention, “shaping” is not followed by “foaming”; rather, a step of “at least partially foaming” necessarily occurs before the step of “shaping” (i.e., “thermoforming the plasticized thermoplastic material into the shaped article of manufacture”). Accordingly, Applicant respectfully submits the presently claimed invention is patentably distinguishable over the prior art and, therefore, requests that the Examiner’s obviousness rejections be withdrawn.

In addition to the foregoing, Applicant also wishes to address the Examiner’s previous dismissals of (1) Vipin Kumar’s Declaration submitted pursuant to 37 CFR 1.132, and (2) the claim limitations that relate to the impregnated plasticizing gas concentration. More specifically, and with respect to Kumar’s Declaration, the Examiner in the last Office Action stated the following:

The declaration under 37 CFR 1.132 filed July 5, 2007 is insufficient to overcome the rejection of claim 15 and those dependent thereon based on Kumar et al., Grancio et al., Rubens et al., and Lake and Kumar as set forth in the last Office action because: the declaration appears to imply a narrower scope of claim 15 than is required by the claim language and thus the declaration is not commensurate in scope with the claims. For example, a second assertion of Mr. Kumar is that his earlier patent (5,684,055) does not disclose anything about “later” forming a polymeric sheet into a shaped article of manufacture. But the instant claim language (claim 15) is of sufficient breadth that the “forming” of step c) is readable on the situation, as described in Kumar et al. at column 5, lines 17 and 18, wherein a polymer sheet is “formed” into a foamed sheet.

Office Action dated August 9, 2007, pages 2-3, paragraph 5.

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Applicant respectfully disagrees with the Examiner's assertion that "the declaration appears to imply a narrower scope of claim 15 than is required by the claim language and thus the declaration is not commensurate in scope with the claims." The prior claim language and Kumar's prior Declaration are (at least in Kumar's mind) entirely commensurate in scope. Nonetheless, and in order to obviate the Examiner's concerns in this regard, Applicant has elected to further narrow the scope of claim 15 such that it now recites "thermoforming" as opposed to "forming."

With respect to the claim limitations that relate to the impregnated plasticizing gas concentration, the Examiner in the last Office Action stated the following:

With regard to the limitation of plasticizing gas, it is again submitted that a foamed sheet having a specific gravity of 0.3, as reported by Kumar et al. at column 6, line 1, would inherently have more than 0.5 percent of gas, such that the formed foamed sheet described in Kumar et al. at column 5, line 18 would meet the gas concentration requirement of claim 15.

Office Action dated August 9, 2007, page 3, paragraph 5 (emphasis added).

Applicant agrees with the Examiner's statement (only because the Examiner in his statement has seemingly failed to account for the "shaping" aspect of the presently claimed invention). Applicant, however, respectfully disagrees with the Examiner's strained interpretation given to the term "formed foamed sheet" as this term does not imply "forming" or "thermoforming" a polymeric sheet into a shaped article of manufacture (as the term "sheet" implies a shapeless 2-dimensional article of manufacture, whereas the prior/present claim limitations require that a 2-dimensional sheet be transformed (i.e., formed/thermoformed) into a "shaped" article of manufacture, which implies a 3-dimensional object – and not a sheet). Accordingly, Applicant respectfully reiterates that the reporting in Kumar et al. about the specific gravity value of foamed PET (value = 0.3) versus that of solid unfoamed PET (value = 1.3) (as set forth in Example 1 and at Kumar et al. at column 6, line 1) does not in any way imply that the step of thermoforming (as is presently claimed) must occur before the plasticizing gas concentration (impregnated within the thermoplastic sheet) falls below a critical value of about 0.5 percent by weight. On the contrary, Kumar et al. fails to provide any specific teaching, suggestion, or motivation to further process his gas impregnated sheets (into shaped articles of manufacture)

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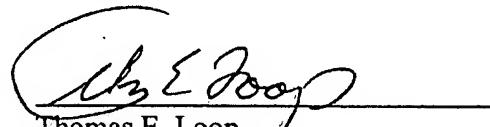
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before the gas concentration dissipates out of the sheets to a value of less than about 0.5 percent by weight.

In view of the above remarks and claim amendments allowance of claims 15-19, 23-25 and 28 is earnestly solicited. A good faith effort has been made to place this application in condition for allowance. If any further matter requires attention prior to allowance, the Examiner is respectfully requested to contact the undersigned attorney at (206) 568-3100 to resolve the same.

Respectfully submitted,



Thomas E. Loop  
Registration No. 42,810  
(206) 568-3100